

as long as the basal joint. The eyes are rather large and very coarsely faceted. The antennæ are as long as the head and thorax together, slightly flattened. The basal joint a little longer than broad; second joint very short; third joint about one third longer than broad, narrowed towards its base; the fourth to tenth joints subequal, shorter than the third, very slightly increasing in width; the terminal joint as long as the two preceding joints taken together, elongate-ovate, rather narrowed towards the apex. Head somewhat as in *Pediacus*, but flatter, less narrowed in front, narrowed behind the eyes, but with a distinct portion behind the eye; surface rather strongly and rather closely punctured. Thorax broader than the head, about as long as broad, rather flat, irregularly and rather strongly punctured (with a fine smooth median line), broadest just before the front angles, gradually but not very much narrowed to the base; the sides almost rectilinear, finely margined; the posterior angles slightly projecting and acute; the base with two widely separated sharply marked foveæ. Elytra somewhat as in *Pediacus*, each with the suture and three fine costæ slightly raised; the intervals flat and appearing smooth, but there are a few fine obscure punctures.

XXXIII.—*Note on the Synonymy of Huphina lanassa, a common Australian Butterfly of the Subfamily Pierinæ.* By ARTHUR G. BUTLER, Ph.D. &c.

So much confusion has arisen in the synonymy of this species that, after carefully working it out, I feel no time should be lost in putting it straight.

The species was described by M. Boisduval in his '*Species Général*' (1836), evidently from an old female example from New Holland in which the under surface of the secondaries had darkened to ochreous with age, and in which there chanced to be no submarginal spots (we have a specimen in which the secondaries show only one spot on the under surface).

M. Boisduval considered his specimen to be a male; but he so often blundered in sexing his species, that no reliance can be placed upon the statement "*Nous n'avons pas vu la femelle.*" The description "*la bordure des supérieures assez large*" can hardly apply to a male, unless it be assumed that his method of description was loose, because an equally broad border to

that of males of this species is (in other descriptions) regarded by M. Boisduval as "de largeur moyenne."

In 1852 M. Lucas described a species, also from New Holland, under the name of *Pieris nabis*, the male of which was of the variety having only two subapical spots on the border of the primaries, the female only differing from typical "*Pieris lanassa*," Boisd., in having several yellow spots on the border of the secondaries below.

In 1865 Felder described the female again, but from Fiji, under the name of "*Pieris perithea*," and compared it with the *P. perimale* of Donovan.

At the same time and on the same page he described a male from Australia, characterized by having the apical area of the primaries and the entire basal area of the secondaries on the under surface whitely brown, under the name of *P. periclea*.

Lastly, in 1867 Wallace described a male from Moreton Bay in which the apical area of the primaries and entire basal area of the secondaries on the under surface were "earthy brown with an orange tinge."

Wallace compared his new species with the *Pieris nabis* of Lucas and *Papilio perimale* of Donovan, but he failed to recognize the latter owing to the fact that the type was evidently a female. The male of Donovan's species is, I have no doubt, the species in Hewitson's collection which Wallace incorrectly identified as Felder's *P. periclea*. There are two examples from New Caledonia, differing from each other exactly as *P. narses* and *P. nabis* differ; but, curiously enough, Wallace does not consider them distinct, as he logically should do, but observes:—"These two specimens indicate a variable species."

It is absolutely certain that Felder's "*P. periclea*" cannot be the species from New Caledonia, which in form of wing corresponds with its presumed female "*P. perimale*," for Felder states that it agrees with his *P. perithea*:—"die vorbeschriebene Art, mit welcher die Flügelform übereinstimmt."

In 1869 Herrich-Schäffer described and figured a *Huphina* as *P. periclea*, and, later, he reproduced the plate coloured as part of an Appendix to his 'Aussereuropäische Schmetterlinge.' The coloured figure is at once seen to be identical with Wallace's *P. narses*, the colouring below not being whitely brown, but earthy brown.

When a large series of *Huphina lanassa* is examined, it becomes evident that the species is tetramorphic; the under surface of the secondaries and apex of primaries may be white, yellow, whitely brown, or earthy brown, but the upper

surface only varies in the number of white spots on the black border. From what we now know of the seasonal dimorphism of white butterflies, it is almost certain that the earthy-brown and whity-brown types are dry-season forms and the yellow and white types are wet-season forms.

In like manner the two males of *P. perimale*, which Wallace regarded as an aberrantly variable species, represent the ordinary dry- and wet-season forms, of the first of which Donovan's type is typical. *P. perimule*, however, is more nearly allied to my *Huphina terranea*, of which we now possess both types from Lifu, than to *Huphina lanassa*.

The synonymy of *H. lanassa* corrected to date will be as follows:—

Huphina lanassa.

♀. *Pieris lanassa*, Boisduval, Sp. Gén. Léop. i. p. 477 (1836).

♂ ♀. *Pieris nabis*, Lucas, Rev. et Mag. de Zool. 1852, p. 326.

♀. *Pieris perithea*, Felder, Reise der Nov., Lep. ii. p. 169 (1865).

Australia, Baudin Island, Fiji.

Dry-season form.

♂. *Pieris periclea*, Felder, Reise der Nov., Lep. ii. p. 169 (1865).

♂. *Pieris narses*, Wallace, Trans. Ent. Soc. ser. 3, vol. iv. p. 333, pl. vi. fig. 3 (1867); Herrich-Schäffer, Stett. ent. Zeit. 1869, p. 76, pl. i. fig. 4; Auss. Schmett., App. p. 3, pl. i. fig. 103 (1869), as *P. periclea*.

Australia, Baudin Island.

In the wet-season form there are all gradations between the extremes of yellow and white, whilst *P. periclea* is a transitional form between the latter and *P. narses*; therefore, if the facts proved as regards the seasonal changes in colouring in other genera of *Pierinae* should be found not to be true of *Huphina*, the above forms would still have to be regarded as variations of one species.

XXXIV.—On the Species of the South-African Scorpion
Opisthophthalmus contained in the Collection of the
British Museum. By R. I. Pocock.

[Plate X.]

THANKS to Prof. Kraepelin's recent examination and comparison of most of the types of *Opisthophthalmus* and his
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